

Digilent Adept -- Installing steps for USC Students (EE101/EE201L/EE560)

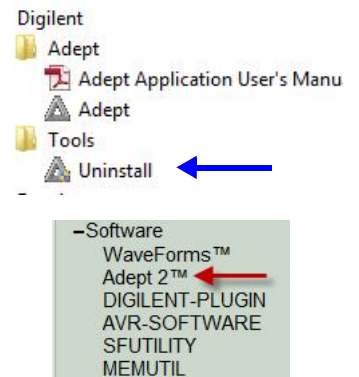
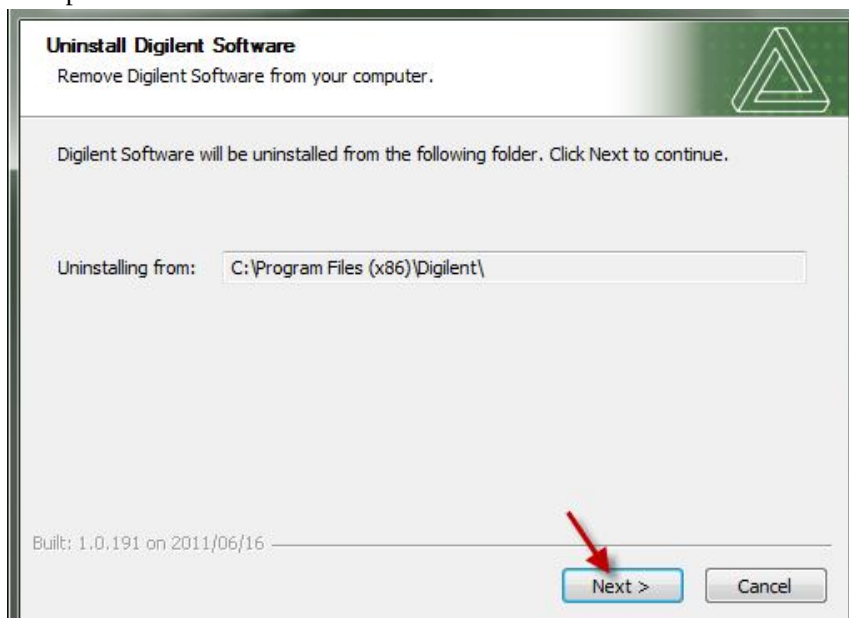
1 PC Operating system:

- 1.1** As of 8/19/2012, the latest version of Adept is **Adept 2.10.2**. It works on Windows XP and Windows 7. Windows Vista may have problems.

2 Installing Adept 2.8.1 (for EE101/EE201L/EE560)

- 2.1** The following installation may take 30 minutes.

- 2.2** Uninstall any previous versions of the Adept, before installing this version. Go to Start => All programs => scroll to Digilent folder => Tools folder => Expand it. Click on Uninstall.



- 2.3** Go to <http://www.digilentinc.com/> and expand (or click on) Software **+Software** on the left panel. Click on Adept 2 on the left-side panel or More Info on the right-side.



Digilent Adept

- Configure Xilinx logic devices, initialize scan chains, program FPGAs, CPLDs, and PROMs, and organize your configuration files
- Transfer data to and from the onboard FPGA on your system board. Read from and write to specified registers. Load a stream of data to a register or read a stream of data from a register.
- Organize and quickly connect to your communications modules.
- Program Xilinx XCFS Platform Flash devices, Xilinx CoolRunner2 CPLDs, and most Xilinx Spartan and Virtex series FPGAs

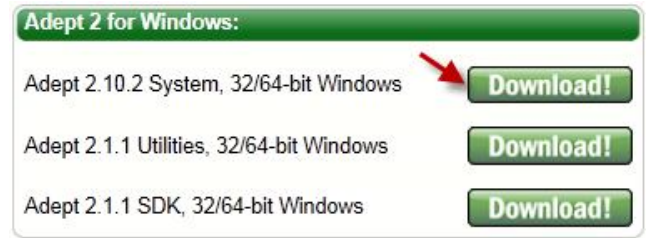
More Info

- 2.4 That takes you to <http://digilentinc.com/Products/Detail.cfm?NavPath=2,66,828&Prod=ADEPT2>

Make sure that you have not connected any Digilent board such as Nexys-2 to the USB port.

You need to be in administrator mode on the PC. Click on Download. Save the file

 digilent.adept.system_v2.10.2.exe

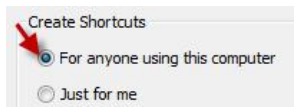


- 2.5 On windows 7, it is a good idea to run the installation tool in compatibility mode as we did for the webpack.

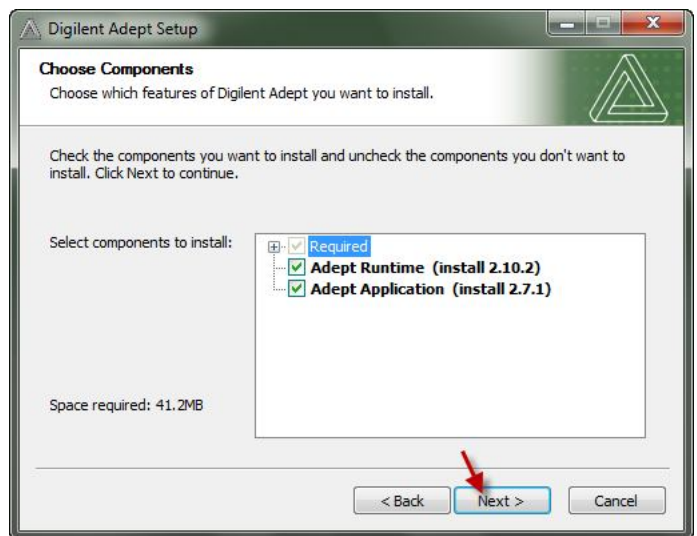
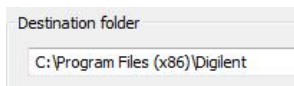
- 2.6 Double-click on  digilent.adept.system_v2.10.2.exe. Press Next in the Welcome window. Accept the license agreement. In the next screen, press Next.

- 2.7 Press Next in the Choose Components.

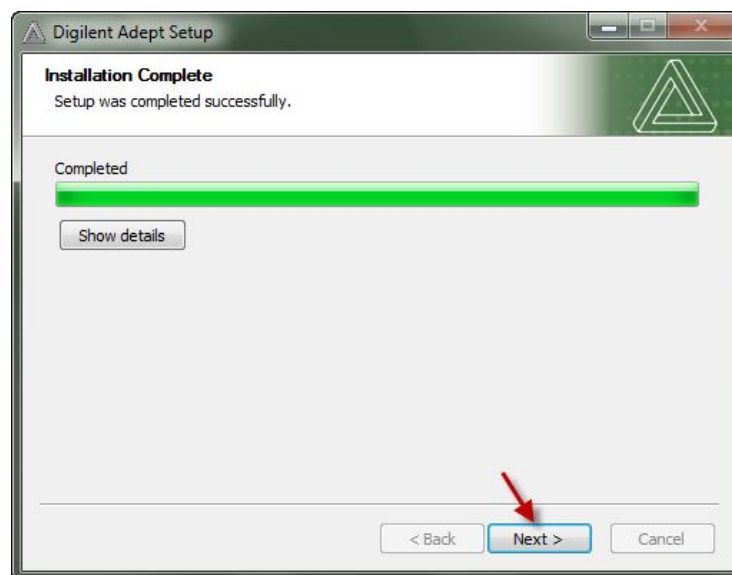
- 2.8



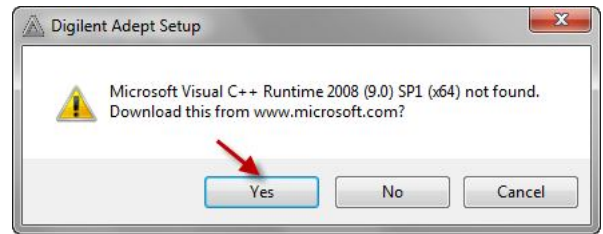
- 2.9 Accept the destination folder by pressing Install.



- 2.10 In a few seconds, it completes the installation.



- 2.11** If you see a dialog box similar to the one on the right select Yes.



2.12



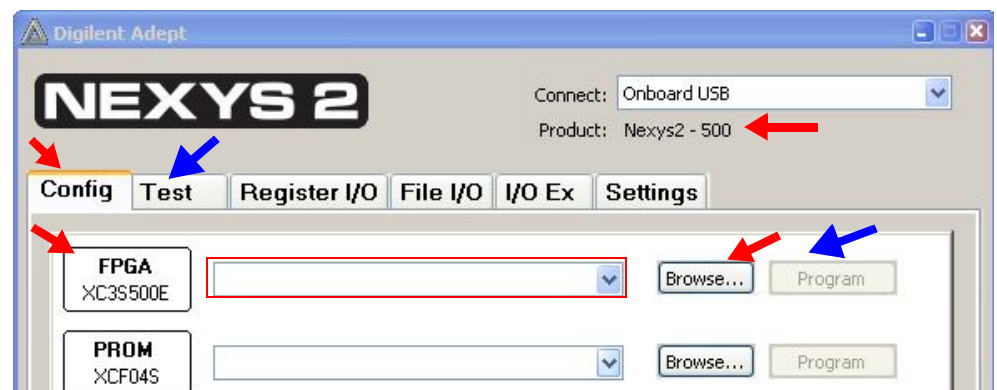
- 2.13** It finishes and displays user manual. You can browse through this but in EE201L and in EE560, the TA will introduce you to Virtual I/O, etc. So close this. Close the Adept application window also.

Adept™ Application User's Manual

- 2.14** Connect your Nexys-2 or Nexys-3 board to USB and restart the tool by going to Start => All Programs => Digilent => Adept => Adept.

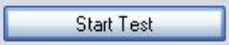
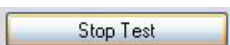


- 2.15** Adept should automatically recognize your board. For example for EE101 course, it shows the product as Nexys2 - 500. Browse and locate the bit file to configure and then click the Program button.



- 2.16** You can go to the **Test** tab and test your board.

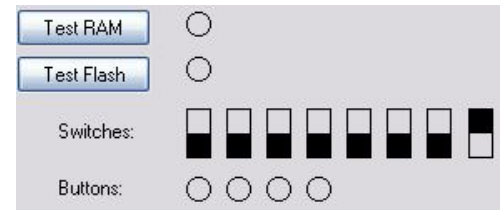
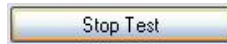


Click on  . The red button changes to green   . You see "PASS" and "128" appear alternately on the 7-seg display.

Play with the 8 switches and notice that the 8 singular LEDs on the board and the 8 virtual displays on the PC GUI follow the switches. Also you see that the 7-seg display changes to a singular-8 on one of the 4 SSDs (Seven Segment Displays). Now play with the four push buttons and notice that the "snake" display crawls on the 4 SSDs towards the button pressed.

2.16.1 Now, you can test RAM on your board.

You can finally stop the test by pressing

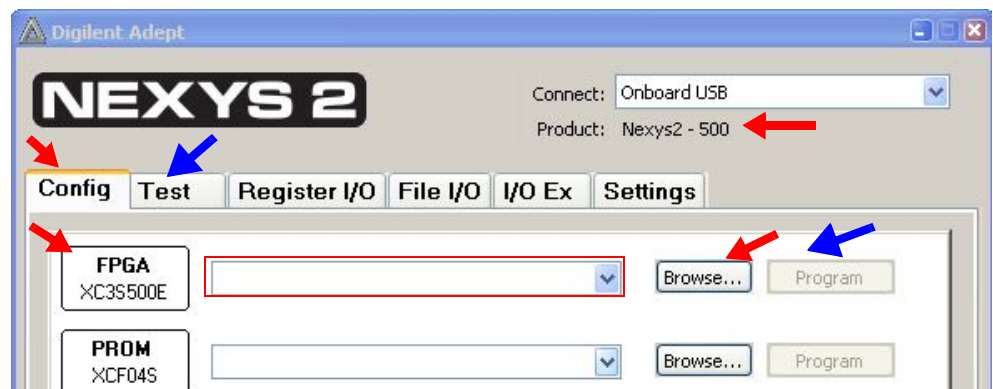


2.17 We intend to use **Register I/O** **File I/O** **I/O Ex**.

EE201L and EE560 students use these tabs to communicate between the PC and the Nexys-3 board using Epp protocol.

2.18 If your instructor or the TA has given you a sample project to test the board, you can test the board as well as the Adept software with that. If he has not provided you the .bit file, produce it using the ISE WebPack. If he has provided you the .bit file, (say, test_nexys2_500.bit), then you can download it using the following steps.

2.18.1 Invoke adept. Select Config tab. Browse and locate the bit file (say, test_nexys2_500.bit). Click the Program button. You should see the walking LEDs patter.



2.19 Celebrate your success in installing and testing the Adept Software tool.